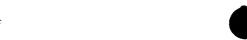


### **CLAIMS**

## Therefore, the following is claimed:

J. duc	BH 7 1.	A system for determining and predicting performance of a communication device
2	comprising:	
3	/ mean	s for specifying a report period, said report period corresponding to a reporting
4	period of inte	erest;
5	mean	s for specifying a plurality of summary periods, each said summary period
6	correspondin	g to a portion of said reporting period;
7	mean	s for processing a retrieved plurality of selected data parameters into a plurality of
8	performance	parameters corresponding to actual performance of said communication device
	during each	of said summary periods and a plurality of trend parameters to predict future
10	performance	of said communication device; and
	mean	ns for presenting and displaying said plurality of performance parameters and said
	plurality of t	rend parameters in a trend report.
<u> </u>	2.	The system of claim, further comprising a means for recommending a
	performance	rating based upon said plurality of trend parameters.
1	3.	The system of claim 1, wherein at least one of said plurality of data parameters is
2	a burst statis	tic.
1	4.	The system of claim 3, further comprising a means for specifying the number of
2	said plurality	y of burst ranges.
1	5.	The system of claim 3, further comprising a means for specifying said percentage
2	range for eac	ch one of said plurality of burst ranges.



- 6. The system of claim 3, wherein said processing means further comprises a burst 2 range trending means which predicts future performance of said communication device relative 3 to each said burst range.
- 7. The system of claim b, wherein at least one of said plurality of burst ranges is a 1 total burst range corresponding to the total number of all bits transmitted during each of said 2 plurality of summary periods. 3
- 8. The system of claim 1, wherein said processing means determines said plurality of 1 trend parameters using a statistical regression algorithm. 2
  - 9. The system of claim 8, wherein said statistical regression algorithm is a linear regression algorithm.
  - 10. The system of claim 8, wherein said processing means further process said plurality of trend parameters to predict the time at which capacity of said communication device should be changed.
  - The system of claim 1, wherein said performance rating corresponds to a port 11. speed of a port residing in said communications device, wherein said port speed corresponds to the rate at which data is transmitted through said port.

1	12.	A system for determining and predicting performance of a communication device,	
2	comprising:		
3	a data	poller, wherein said data poller collects a plurality of data parameters from said	
4	communication device;		
5	a data	base which stores said data parameters;	
6	a usei	rinterface, wherein a user specifies a report period, said report period corresponding	
7	to a reporting	g period of interest, and said user specifies a plurality of summary periods, each said	
8	summary period corresponding to a portion of said reporting period;		
9	a pro	cessor, wherein said processor retrieves a plurality of selected data parameters from	
10	said database	such that said plurality of selected data parameters corresponds to said plurality of	
11	summary per	iods, and wherein said processor processes said plurality of selected data parameters	
12	into a plurali	ty of performance parameters which correspond to actual performance of said	
13	communicati	on device during each of said summary periods, and wherein said processor trends	
	said plurality	of performance parameters into a plurality of trend parameters to predict future	
13	performance	of said communication device;	
16	a data	a presentation module, said module presents said plurality of processed performance	
	parameters a	nd said plurality of trend parameters in a trend report; and	
13	a graphical user interface which displays said trend report.		
4	13.	The system of claim 12, wherein said processor recommends a performance rating	
2	based upon s	aid plurality of trend parameters.	
1	14.	The system of claim 12, wherein at least one of said plurality of data parameters is	
2	a burst statist	tic.	
1	15.	The system of claim 14, wherein a user specifies via said user interface the	
2	number of said plurality of burst ranges.		
1	16.	The system of claim 14, wherein a user specifies via said user interface said	

percentage range for each said burst range.

2

3

1

2

3

1

- 17. The system of claim 14, wherein said processor further trends each said burst range to predict future performance of said communication device relative to each said burst range.
- 18. The system of claim 17, wherein at least one of said burst ranges is a total burst range corresponding to the total number of all bits transmitted during each of said plurality of summary periods.
  - 19. The system of claim 12, wherein said processor generates said plurality of trend parameters using a statistical regression algorithm.
  - 20. The system of claim 19, wherein said statistical regression algorithm is a linear regression algorithm.
  - 21. The system of claim 19, wherein said plurality of trend parameters predict the time at which capacity of said communication device should be generated.
  - 22. The system of claim 12, wherein said performance rating corresponds to a port speed of a port residing in said communications device, wherein said port speed corresponds to the rate at which data is transmitted through said port.

1	23.	A method for determining and predicting performance of a communication	
2	device, the method comprising the steps of:		
3	collecting a plurality of data parameters from said communication device;		
4	specif	ying a report period, said report period corresponding to a reporting period of	
5	interest and a	plurality of summary periods, each said summary period corresponding to a portion	
6	of said reporting period;		
7	processing said plurality of selected data parameters into a plurality of performance		
8	parameters corresponding to actual performance of said communication device during each of		
9	said summary periods, and processing said plurality of performance parameters into a plurality of		
10	trend parameters to predict future performance of said communication device; and		
11	preser	iting said plurality of performance parameters and said plurality of trend parameters	
12 	in a trend repo		
	24.	The system of claim 23, further comprising the step of recommending a rating based upon said plurality of trend parameters.	
	25.	The system of claim 23, wherein at least one of said plurality of data parameters is	
	a burst statist	ic.	
I	26.	The system of claim 25, further comprising a step of specifying the number of	
2	said plurality	of burst ranges.	
1	27.	The system of claim 25, further comprising a step of specifying said percentage	
2	range for eacl	n said burst range.	
1	28.	The system of claim 27, wherein said processing step further comprises a burst	
2	range trending step which predicts future performance of said communication device relative to		
3	each one of said plurality of burst ranges.		

2



- 29. The system of claim 28, wherein at least one of said burst ranges is a total burst range corresponding to the total number of all bits transmitted during each of said plurality of summary periods.
- 1 30. The system of claim 23, wherein said processing step determines said plurality of trend parameters using a statistical regression algorithm.
- 1 31. The system of claim 30, wherein said statistical regression algorithm is a linear regression algorithm.
  - 32. The system of claim 30, wherein said processing step further includes the step of predicting the time at which capacity of said communication device should be changed.
  - 33. The system of claim 23, wherein said performance rating corresponds to a port speed of a port residing in said communications device, wherein said port speed corresponds to the rate at which data is transmitted through said port.

	7	
1	34. A computer readable	medium having a program for determining and predicting
2	performance of a communication de	evice, the program comprising logic configured to perform the
3	steps of:	
4	receiving a specification of	a report period from a user, said report period corresponding
5	to a reporting period of interest;	
6	receiving a specification for	a plurality of summary periods, each said summary period
7	corresponding to a portion of said	eporting period;
8	retrieving a plurality of sele	cted data parameters, said plurality of selected data

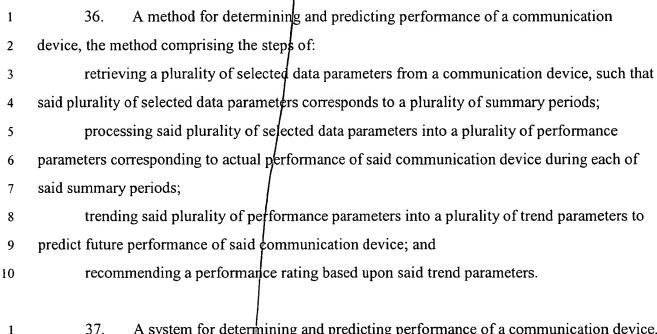
retrieving a plurality of selected data parameters, said plurality of selected data parameters corresponding to said plurality of summary periods;

processing said plurality of selected data parameters into a plurality of performance parameters corresponding to actual performance of said communication device during each of said summary periods;

trending said plurality of performance parameters into a plurality of trend parameters to predict future performance of said communication device; and

presenting said plurality of processed performance parameters and said plurality of trend parameters in a trend report.

35. The computer readable medium of claim 34, further comprising logic configured to perform the step of recommending a performance rating based upon said plurality of trend parameters.



37. A system for determining and predicting performance of a communication device, comprising

a user interface, wherein a user specifies a report period, said report period corresponding to a reporting period of interest, and said user specifies a plurality of summary periods, each said summary period corresponding to a portion of said reporting period; and

a processor, wherein said processor detects a plurality of selected data parameters from said communications device such that said plurality of selected data parameters corresponds to said plurality of summary periods, and wherein said processor processes said plurality of selected data parameters into a plurality of performance parameters which correspond to actual performance of said communication device during each of said summary periods, and wherein said processor trends said plurality of performance parameters into a plurality of trend parameters to predict future performance of said communication device, and wherein said processor recommends a performance rating based upon said plurality of trend parameters.

1
2
3
4
5
6
7
8
9
10
11
12
18 19 20 1

i	38. A system for determining and predicting performance of a communication device,
2	comprising:
3	means for collecting a plurality of data parameters from said communication device;
4	means for storing said data parameters;
5	means for specifying a report period, said report period corresponding to a reporting
6	period of interest;
7	means for specifying a plurality of summary periods, each said summary period
8	corresponding to a portion of said reporting period;
9	means for retrieving a plurality of selected data parameters from said storing means, said
0	plurality of selected data parameters corresponding to said plurality of summary periods;
1	means for processing said plurality of selected data parameters into a plurality of
2	performance parameters corresponding to actual performance of said communication device
3	during each of said summary periods;
4 fi	means for trending said plurality of performance parameters into a plurality of trend
<u>5</u>	parameters to predict future performance of said communication device;
	means for recommending a performance rating based upon said plurality of trend
7	parameters;
8	means for presenting said plurality of processed performance parameters and said
9	plurality of trend parameters in a trend report; and
	means for displaying said trend report.

1	39. A method for determining and predicting performance of a communication
2	device, the method comprising the steps of:
3	collecting a plurality of data parameters from said communication device;
4	storing said data parameters;
5	specifying a report period, said report period corresponding to a reporting period of
6	interest;
7	specifying a plurality of summary periods, each said summary period corresponding to a
8	portion of said reporting period;
9	retrieving a plurality of selected data parameters from storage, said plurality of selected
0	data parameters corresponding to said plurality of summary periods;
1	processing said plurality of selected data parameters into a plurality of performance
2	parameters corresponding to actual performance of said communication device during each of
3	said summary periods;
4	trending said plurality of performance parameters into a plurality of trend parameters to
<u>₹</u>	predict future performance of said communication device;
6	recommending a performance rating based upon said plurality of trend parameters;
7	presenting said plurality of processed performance parameters and said plurality of trend
3	parameters in a trend report; and
9	displaying said trend report.
==; ==;	

### 40. A transmitter, comprising:

a user interface, wherein a user specifies a report period, said report period corresponding to a reporting period of interest, and said user specifies a plurality of summary periods, each said summary period corresponding to a portion of said reporting period;

a processor, wherein said processor retrieves a plurality of selected data parameters such that said plurality of selected data parameters corresponds to said plurality of summary periods, and wherein said processor processes said plurality of selected data parameters into a plurality of performance parameters which correspond to actual performance of said communication device during each of said summary periods, and wherein said processor trends said plurality of performance parameters into a plurality of trend parameters to predict future performance of said communication device, and wherein said processor recommends a performance rating based upon said plurality of trend parameters; and

a data presentation module, said module presents said plurality of processed performance parameters and said plurality of trend parameters in a trend report.

#### 41. A receiver, comprising:

a user interface, wherein a user specifies a report period, said report period corresponding to a reporting period of interest, and said user specifies a plurality of summary periods, each said summary period corresponding to a portion of said reporting period;

a processor, wherein said processor retrieves a plurality of selected data parameters such that said plurality of selected data parameters corresponds to said plurality of summary periods, and wherein said processor processes said plurality of selected data parameters into a plurality of performance parameters which correspond to actual performance of said communication device during each of said summary periods, and wherein said processor trends said plurality of performance parameters into a plurality of trend parameters to predict future performance of said communication device, and wherein said processor recommends a performance rating based upon said plurality of trend parameters; and

a data presentation module, said module presents said plurality of processed performance parameters and said plurality of trend.